

ABSTRACT

A virtual cell management apparatus and method using sectors in an orthogonal frequency division multiplexing mobile communication system including a cell structure having cells each comprised of a plurality of sectors, the cells performing data communication with mobile terminals within a corresponding cell through at least one subchannel having orthogonality. The method comprises forming a virtual cell with a particular one of sectors constituting a particular cell and sectors of two other cells neighboring the particular sector; transmitting, by three base stations forming the virtual cell, an interference measurement value and a channel parameter estimation value from a mobile terminal located in the virtual cell to a base station controller that controls the virtual cell, thereby allocating wireless resource including frequency bandwidth, initial bits, subcarriers and refined bits in the virtual cell; transmitting the allocated wireless resource to the three base stations so that the base stations allocate a same subchannel to each mobile terminal located in the virtual cell; and transmitting same data over the allocated subchannel.